

Application No.: 10/673,103

to as “back office contacts,” which are placed into ~~[[an]]~~ a queue which is to be serviced by a back office, meaning that they are not serviced by agents in real time with a contact.

Change(s) applied to document,  
/M.L.W./  
4/8/2011

Please amend the paragraph beginning on page 5, line <sup>13</sup>~~19~~ to reflect the following changes:  
The ordered set of items, in one embodiment, is generated by determining a range of required queue positions which correspond to each item within the ordered set, and incrementing a counter associated with the item within the ordered set which corresponds to a required queue position associated with each work item. The range of queue positions for each item in the ordered set may be set to preestablished criteria, such as, for example, each item in the ordered set may correspond to one queue position, or each item in the ordered set, where the number of the item is N, may be  $2^{N-1} < RQP \left[ \left[ \geq \right] \right] \leq 2^N$ .

<sup>4</sup>  
Please amend the paragraph beginning on page 7, line ~~21~~ to reflect the following changes:  
The invention also provides, in another embodiment, a computational component for performing a method, the method comprising: determining a required queue position (RQP) for each of a plurality of work items, the RQP based on a remaining time for the work item and a weighted advance time for the work queue incrementing a counter in an element of an array of counters, the element corresponding to a predefined range of required queue positions; and analyzing the array of counters to predict a future state of the work items. The determining a required queue position step may include, for each work item, subtracting an amount of time since the work item was received from a service time goal for the work item to obtain a remaining time for the work item. The determining a required queue position step may include determining the weighted advance time for the work queue and for each work item, dividing the remaining time by the weighted advance time for the work queue. The incrementing a counter step may include determining a range of required queue positions which correspond to each element within the array of counters, and incrementing a counter associated with the element within the array of counters which corresponds to the required queue position obtained in the determining a required queue position step. In one embodiment, the predefined range of queue positions for each element in the array of counters is one.

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Change(s) applied  
to document,

AMENDMENTS TO THE SPECIFICATION:

/M.L.W./

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4/8/2011 Please amend the paragraph beginning on page 2, line ~~19~~ to reflect the following changes:

As is known in the art, it is common for such ACD systems to include algorithms which detect whether service time goals are being met, and also to predict if service time goals are likely to be met in the future. Numerous techniques have been devised for determining an actual or anticipated wait time for each queued item, and the queued items are typically serviced based on the actual and/or anticipated wait time. However, such techniques generally look at only the head of the queue, in order to determine if the contact center is currently behind target, or is in a state of immediate risk. Techniques which are used to predict ~~[[of]]~~ if service time goals are likely to be met in the future generally only look at the tail of the queue, or the last item in the queue, and make a determination of whether it is predicted that this item will be serviced at or before the service time goal for that work item, and give a yes/no answer as to whether there is a future risk. As will be understood, the last item in the queue may follow a number of items which all have a service time goal which will expire at substantially the same time. Thus, it is possible that the last item in a queue will show no future risk, while there in actuality is a future risk associated with the relatively heavy workload which precedes the last work item in the queue. Accordingly, it would be advantageous to have a method and apparatus which is able to determine future risk, and also determine when such risk will arise and the amount of resources required to correct the potential shortfall in resources.

Please amend the paragraph beginning on page 3, line <sup>9</sup>~~16~~ to reflect the following changes:

Another problem with such techniques is that they were designed for real time servicing. As mentioned above, it is common to receive contacts in the form of e-mail, fax, electronic documents, web forms, voice messages, which do not require immediate attention of an agent, but rather are required to be attended to within a preset service time goal period. For example, the contact center may have a service time goal for electronic mail of one business day. Likewise, web forms which are received may have a goal of being answered within two business days. Such contacts are referred